

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A polyaxial fixation device, comprising:
a shank having a spherical head formed on a proximal end thereof;
a receiver member having an axial passage formed therein and adapted to polyaxially seat the spherical head of the shank; and
~~an engagement member~~ a ring member disposed within a groove formed around one of an inner surface of the receiver member and an outer surface of the spherical head of the shank, the ring member being adapted to provide sufficient friction between the spherical head and the receiver member to enable the shank to be maintained in a desired angular orientation before locking the spherical head within the receiver member.
2. (Cancelled).
3. (Cancelled).
4. (Currently Amended) The device of claim 31, wherein the groove has a depth that is equal to or greater than a thickness of the ring member to allow the ring member to be completely disposed within the groove.
5. (Currently Amended) The device of claim 31, wherein the ring member is adapted to expand or contract to be completely disposed within the groove.
6. (Currently Amended) The device of claim 21, wherein the ring member has an irregular shape.
7. (Currently Amended) The device of claim 21, wherein the ring member is substantially C-shaped.
8. (Currently Amended) The device of claim 21, wherein the ring member includes an opening formed in a wall thereof to allow the ring member to expand.

9. (Cancelled).
10. (Currently Amended) ~~The~~ A polyaxial fixation device of claim 9, comprising:
a shank having a spherical head formed on a proximal end thereof;
a receiver member having an axial passage formed therein and adapted to polyaxially seat
the spherical head of the shank; and
wherein the a collet is at least partially disposed within a groove formed around an inner
surface of the receiver member and adapted to engage the spherical head of the shank to provide
sufficient friction between the spherical head and the receiver member to enable the shank to be
maintained in a desired angular orientation before locking the spherical head within the receiver
member.
11. (Cancelled).
12. (Currently Amended) ~~The~~ A polyaxial fixation device of claim 11, comprising:
a shank having a spherical head formed on a proximal end thereof;
a receiver member having an axial passage formed therein and adapted to polyaxially seat
the spherical head of the shank; and
wherein the a compression cap disposed within the receiver member and having a
concave distal surface adapted to seat at least a portion of the spherical head of the shank, and
includes opposed leaf-spring members, and wherein the receiver member includes opposed
deformable portions that, upon deformation, are effective to contract the leaf-spring members to
cause the compression cap to frictionally engage the spherical head of the shank.
13. (Currently Amended) ~~The~~ A polyaxial fixation device of claim 11, comprising:
a shank having a spherical head formed on a proximal end thereof;
a receiver member having an axial passage formed therein and adapted to polyaxially seat
the spherical head of the shank; and
a compression cap disposed within the receiver member and having a concave distal

surface adapted to seat at least a portion of the spherical head of the shank, wherein at least a portion of the compression cap has a diameter that is expandable or deformable to frictionally engage the spherical head.

14. (Original) The device of claim 13, wherein the compression cap includes a plurality of distally-extending finger-like members formed around a distal edge of the compression cap and adapted to frictionally engage the spherical head.

15. (Original) The device of claim 13, wherein the compression cap includes at least one longitudinally oriented slot formed therein to allow the compression cap to be contracted to frictionally engage the spherical head.

16. (Original) The device of claim 14, wherein the concave distal surface of the compression cap has an inner radius that is less than a radius of the spherical head to allow the compression cap to frictionally engage the spherical head when the compression cap is retained within the receiver member.

17. (Currently Amended) A polyaxial fixation assembly, comprising:
a shank having a spherical head formed on a proximal end thereof;
a receiver member having a first, proximal opening adapted to receive a spinal fixation rod and a second, distal opening having a diameter sized to permit passage of the shank therethrough while maintaining the spherical head therein, the receiver member further including a spherical seat adjacent the second, distal opening to polyaxially seat the spherical head of the shank; and

~~means~~ a ring member disposed within a groove formed around one of an outer surface of the spherical head of the shank and an inner surface of the receiver member for frictionally engaging the spherical head to maintain the shank in a desired angular orientation such that a force greater than a frictional engagement force is required to change the angular orientation of the shank with respect to the receiver member.

18. (Cancelled).
19. (Cancelled).
20. (Currently Amended) The polyaxial fixation assembly of claim ~~19~~17, wherein the groove has a depth that is equal to or greater than a thickness of the ~~snap~~ ring member to allow the ~~snap~~ ring member to expand or contract completely into the groove.
21. (Currently Amended) The polyaxial fixation assembly of claim ~~19~~17, wherein the ring member is adapted to expand or contract to be completely disposed within the groove.
22. (Currently Amended) The polyaxial fixation assembly of claim ~~18~~17, wherein the ring member has an irregular shape.
23. (Currently Amended) ~~The~~ A polyaxial fixation assembly ~~of claim 17~~, comprising:
a shank having a spherical head formed on a proximal end thereof;
a receiver member having a first, proximal opening adapted to receive a spinal fixation rod and a second, distal opening having a diameter sized to permit passage of the shank therethrough while maintaining the spherical head therein, the receiver member further including a spherical seat adjacent the second, distal opening to polyaxially seat the spherical head of the shank; and
~~wherein the means for engaging the spherical head comprises~~ a collet having a plurality of expandable members disposed therearound and adapted to engage the spherical head of the shank.
24. (Original) The polyaxial fixation assembly of claim 23, wherein the collet is at least partially disposed within a groove formed around an inner surface of the receiver member.
25. (Cancelled).

26. (Currently Amended) ~~The~~ A polyaxial fixation assembly of claim 25, comprising:
a shank having a spherical head formed on a proximal end thereof;
a receiver member having a first, proximal opening adapted to receive a spinal fixation
rod and a second, distal opening having a diameter sized to permit passage of the shank
therethrough while maintaining the spherical head therein, the receiver member further including
a spherical seat adjacent the second, distal opening to polyaxially seat the spherical head of the
shank; and

~~wherein the~~ a compression cap includes having opposed leaf-spring members, and
wherein the receiver member includes opposed deformable portions that, upon deformation, are
effective to contract the leaf-spring members toward one another to cause the compression cap to
frictionally engage the spherical head of the shank.

27. (Currently Amended) ~~The~~ A polyaxial fixation assembly of claim 25, comprising:
a shank having a spherical head formed on a proximal end thereof;
a receiver member having a first, proximal opening adapted to receive a spinal fixation
rod and a second, distal opening having a diameter sized to permit passage of the shank
therethrough while maintaining the spherical head therein, the receiver member further including
a spherical seat adjacent the second, distal opening to polyaxially seat the spherical head of the
shank; and

a compression cap for frictionally engaging the spherical head to maintain the shank in a
desired angular orientation such that a force greater than a frictional engagement force is
required to change the angular orientation of the shank with respect to the receiver member,
wherein at least a portion of the compression cap has a diameter that is expandable or deformable
to frictionally engage the spherical head.

28. (Original) The polyaxial fixation assembly of claim 27, wherein the compression cap
includes a collet portion with a plurality of distally-extending finger-like members formed
around a distal edge of the compression cap and adapted to frictionally engage the spherical
head.

29. (Original) The polyaxial fixation assembly of claim 27, wherein the compression cap includes at least one longitudinally oriented slot formed therein to allow the compression cap to be contracted to frictionally engage the spherical head.

30. (Original) The polyaxial fixation assembly of claim 28, wherein the concave distal surface of the compression cap defines an inner radius that is less than a radius of the spherical head to allow the compression cap to frictionally engage the spherical head when the compression cap is retained within the receiver member.

31. (Cancelled).